ABSTRACT OF THE DISCLOSURE

An assembly for focusing and coupling radiation produced by a semiconductor laser into an optical fiber, in particular a multimode optical fiber, including a radiation-focusing element in the form of cylinder lens disposed in the area between the radiating surface of the semiconductor laser and light entrance side of the optical fiber, the length of the cylinder lens being at least equal to a width of a beam exit window defining the radiation surface of the semiconductor laser, and the diameter of the cylinder lens being substantially on the order of magnitude of the core diameter of the optical fiber. The cylinder lens is in the form of glass fiber lens directly glued onto, fused with, or melted onto the light entrance side of the optical fiber which extends substantially at right angles to the orientation of the cylinder lens. The assembly can be used in particular to produce high-powered laser modules up to 50 watts and are very suitable as pumping laser for an end-pumped solid state laser, for example for medical applications or for materials processing.